

## ABSTRACT

The invention provides a method of culturing cells which includes a proliferating step in which the number of precursor cells is expanded and a differentiating step in which the expanded precursor cells develop into neuronal cells. The proliferating step  
5 includes the step of incubating the precursor cells in proliferating medium which includes basic fibroblast growth factor (bFGF). The differentiating step includes incubating the precursor cells in differentiation media in a manner effective to form a cellular aggregate that is not adhered to any surface of the incubation vessel. In a preferred embodiment, the cells are incubated in a roller tube. The differentiation media can also include at least  
10 one differentiating agent. The invention also provides a method for treating a neurological disorder, such as Parkinson's disease, a method of introducing a gene product into a brain of a patient, an assay for neurologically active substances, and a cell culture.